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- (71) Applicants (*for all designated States except US*): **GLAXOSMITHKLINE BIOLOGICALS SA** [BE/BE]; Rue de l'Institut 89, B-1330 Rixensart (BE). **UTRECHT UNIVERSITY** [NL/NL]; Padualaan 8, NL-3584 CH Utrecht (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **BIEMANS, Ralph** [BE/BE]; GlaxoSmithKline Biologicals S.A., Rue de l'Institut 89, B-1330 Rixensart (BE). **BOS, Martine** [NL/NL]; Utrecht University, Padualaan 8, NL-3584 CH Utrecht (NL). **DENOEL, Philippe** [BE/BE]; GlaxoSmithKline Biologicals S.A., Rue de l'Institut 89, B-1330 Rixensart (BE). **FERON, Christiane** [BE/BE]; GlaxoSmithKline Biologicals S.A., Rue de l'Institut 89, B-1330 Rixensart (BE). **GORAJ, Karine** [BE/BE]; GlaxoSmithKline Biologicals S.A., Rue de l'Institut 89, B-1330 Rixensart (BE). **POOLMAN, Jan** [NL/BE]; GlaxoSmithKline Biologicals S.A., Rue de l'Institut 89, B-1330 Rixensart (BE). **TOMMASSEN, Jan** [NL/NL]; Utrecht University, Padualaan 8, NL-3584 CH Utrecht (NL). **WEYNANTS,**
- (74) Agent: **LUBIENSKI, Michael, John**; GlaxoSmithKline, CIP (CN925.1), 980 Great West Road, Brentford, Middlesex TW8 9GS (GB).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
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(54) Title: METHOD FOR REFOLDING NEISSERIAL NSPA PROTEIN

(57) Abstract: The present invention provides an isolated refolded NspA protein, and a method of preparing it.

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INTERNATIONAL SEARCH REPORT

International Application No

P 03/10085

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07K14/22 A61K39/095

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07K A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, CHEM ABS Data, EMBASE, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JANSEN C ET AL: "Biochemical and biophysical characterization of in vitro folded outer membrane porin PorA of Neisseria meningitidis" BIOCHIMICA ET BIOPHYSICA ACTA. BIOMEMBRANES, AMSTERDAM, NL, vol. 1464, no. 2, 5 April 2000 (2000-04-05), pages 284-298, XP004273195 ISSN: 0005-2736	11
Y	page 285, column 1, paragraph 2 page 285, column 2, last paragraph - page 286 ----- -/--	1-10, 12-36

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

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- *E* earlier document but published on or after the international filing date
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- *Z* document member of the same patent family

Date of the actual completion of the international search

2 June 2004

Date of mailing of the international search report

14/06/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Noë, V

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/10085

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>WO 96/29412 A (BRODEUR BERNARD R ;HAMEL JOSEE (CA); RIOUX CLEMENT (CA); IAF BIO V) 26 September 1996 (1996-09-26) cited in the application abstract page 1, line 5 - line 21 page 5, line 24 - page 6, line 12 page 15, line 19 - page 16, line 9 page 21, line 14 - line 33 page 22, line 10 - page 23, line 24 examples 4-6,8,12</p>	1-10, 12-17, 24-36
Y	<p>WO 00/71725 A (PIZZA MARIAGRAZIA ;RAPPUOLI RINO (IT); CHIRON SPA (IT); GIULIANI M) 30 November 2000 (2000-11-30) page 54, line 31 - page 55, line 16 claim 8; example 11</p>	18-21
Y	<p>KRAMER R A ET AL: "In vitro folding, purification and characterization of Escherichia coli outer membrane protease OmpT" EUROPEAN JOURNAL OF BIOCHEMISTRY, vol. 267, no. 3, February 2000 (2000-02), pages 885-893, XP001189705 ISSN: 0014-2956 abstract page 886, column 1, paragraph 3</p>	8,9
Y	<p>DEKKER NIEK ET AL: "In vitro folding of Escherichia coli outer-membrane phospholipase A" EUROPEAN JOURNAL OF BIOCHEMISTRY, vol. 232, no. 1, 1995, pages 214-219, XP008029422 ISSN: 0014-2956 page 214, column 2, last paragraph - page 215, column 1, paragraph 1</p>	8,9
Y	<p>WO 01/72337 A (GORRINGE ANDREW RICHARD ;HUDSON MICHAEL JOHN (GB); MICROBIOLOGICAL) 4 October 2001 (2001-10-04) page 3, line 25 - page 4, line 3 page 4, line 34 - page 5, line 4 page 10, line 19 - page 11, line 26</p>	22,23
Y	<p>WO 01/09350 A (DALEMANS WILFRIED L J ;SMITHKLINE BEECHAM BIOLOG (BE); THIRY GEORG) 8 February 2001 (2001-02-08) page 31, line 1 - line 11 page 36, line 5 - page 37, line 6</p>	18-23
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/10085

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>MOE G R ET AL: "Differences in surface expression of NspA among Neisseria meningitidis group B strains" INFECTION AND IMMUNITY, AMERICAN SOCIETY FOR MICROBIOLOGY. WASHINGTON, US, vol. 67, no. 11, November 1999 (1999-11), pages 5664-5675, XP002266209 ISSN: 0019-9567 abstract</p>	
P,X	<p>-----</p> <p>VANDEPUTTE-RUTTEN LUCY ET AL: "Crystal structure of neisserial surface protein A (NspA), a conserved outer membrane protein with vaccine potential." JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 278, no. 27, 4 July 2003 (2003-07-04), pages 24825-24830, XP002274972 ISSN: 0021-9258 abstract page 24825, column 2, last paragraph - page 24826, column 1, paragraph 1 page 24827, column 1, paragraph 1 page 24829, column 2, paragraph 2</p> <p>-----</p>	<p>1-5, 10-16</p>

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/10085

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 26-28 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/10085

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